

## Master of Science in Computer Science Program Requirements

7 Classes (4 Core + 3 Elective) + 2 Immersion (if needed)

### Placement Exams & Immersion Courses

Choose 1:

- MPCS Programming Placement Exam** or
- MPCS 50101 Concepts of Programming (Immersion Programming)**

Immersion classes are in addition to the 7 degree required courses. Students have the choice to take immersion classes or take the placement exams.

Choose 1:

- Discrete Math Placement Exam** or
- MPCS 50103 Discrete Math (Immersion Math)**

### Core Courses

#### Programming Choose 1

- Java Programming\***
- Python Programming\***

\*Students taking MPCS 50101 Concepts of Programming (Immersion Programming) must enroll in Java or Python.

- Advanced Programming\*\***
- C Programming\*\***
- Intermediate Python Programming\*\***

\*\*Advanced programming classes are only available through the MPCS Programming Placement Exams.

Only one core programming class is allowed. Additional programming classes cannot be taken as electives.

All core programming classes are offered in the Autumn quarter. Only Python Programming is offered in the Winter quarter.

#### Theory Choose 1

- Algorithms**
- Intermediate Algorithms**
- Advanced Algorithms**
- Topics in Algorithmic Game Theory**

Intermediate Algorithms requires a previous algorithms class.

Advanced Algorithms and Topics in Algorithmic Game Theory can be taken as electives after the core theory requirement is fulfilled.

#### Systems Choose 2

- Advanced Computer Architecture**
- Advanced Computer Systems**
- Compilers**
- Databases**
- Distributed Systems**
- Functional Programming**
- GPU Programming**
- Intro to Computer Security**
- Intro to Computer Systems**
- Intro to Unix Systems**
- Networks**
- Operating Systems**
- Parallel Programming**

Additional core systems classes can be taken as electives after the core systems requirement is fulfilled.

### Electives Courses

Choose 3

- Advanced C++**
- Advanced Data Analytics**
- Advanced iOS**
- Advanced Topics in Cloud Computing**
- Advanced UI/UX**
- Android Application Development**
- App Development Capstone**
- Applied Data Analysis**
- Applied Financial Technology**
- Applied Software Engineering**
- Big Data App Architecture**

- C++ for Advanced Programmers**

- Cloud Computing**

- Entrepreneurship in Technology**

- Foundations of Computational Data Analysis**

- Full Stack Software Engineering**

- Generative AI**

- High Performance Computing**

- Human-Computer Interaction**

- Intro to Blockchain**

- Intro to Scientific Computing**

- Intro to Software Engineering**

- iOS Application Development**

- Machine Learning**

- MPCS Practicum**

- Natural Language Processing**

- OO Architecture**

- OO Programming**

- Product Management**

- Software Quality Assurance**

- Time Series Analysis and Stochastic Processes**

- Topics/Software Engineering**

- Topics/Software: Making an Impact**

- UI/UX Design**

- Web Development**

Elective classes can be taken after three core classes are completed or concurrent with the third core class.

Check course prerequisites for eligibility.

# Sample Course Plans

**Joint MBA/MPCS students should plan to take courses in the MPCS and at Booth simultaneously.** Most students take 1-2 MPCS courses per quarter. MPCS registration in all quarters is not required. Students should plan to meet with an academic advisor in the MPCS to develop a course plan for their time in the program.

## Sample Course Plan: Pass both placement exams or elect to take summer immersion courses.

Academic Year	Summer	Autumn	Winter	Spring
1	Immersion Programming Immersion Math or Placement Exams	Core Programming Core Systems	Algorithms	Core Systems
2		Elective	Elective	Elective

## Sample Course Plan: Elect to take MPCS 50101 in the summer ahead of Booth start.

Academic Year	Summer	Autumn	Winter	Spring
1	Immersion Programming	Core Programming Core Systems	Immersion Math	Algorithms
2		Core Systems Elective	Elective	Elective

## Sample Course Plan: Elect to take MPCS 50101 in the Autumn quarter along with Booth start.

Academic Year	Summer	Autumn	Winter	Spring
1		Immersion Programming	Core Programming (only Python offered in Winter) Core Systems	Algorithms Core Systems
2		Core Systems Elective	Elective	Elective

## Sample Course Plan: Pass MPCS Programming Placement Exam, Discrete Math needed.

Academic Year	Summer	Autumn	Winter	Spring
1		Core Programming Core Systems	Immersion Math	Algorithms
2		Core Systems Elective	Elective	Elective

See course schedule for current offerings and course details:

[mpcs-courses.cs.uchicago.edu](http://mpcs-courses.cs.uchicago.edu)



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**CHICAGO**

MASTERS PROGRAM  
IN COMPUTER SCIENCE